
Engineering Protofederation Federation Object Model

Presented to:

HLA Architecture Management Group Meeting #10

March 6, 1996

Outline

- **Development Process**
 - » **Procedures used (Including Mechanics, Tools, FOM Data Recording Methods)**
 - **Who Did What to Whom & Why**
- **Resulting Product**
 - » **FOM Description**
 - **Top-level characteristics (Types of objects, attributes, use of class structures)**
 - **Examples of actual FOM data from key tables**
 - **FOM Key Aspects**
- **Lessons Learned**
 - » **What We'd Do Differently Next Time**

OMT Development Process

- **Early HLA Strategy (Forward-Biased Waterfall)**
 - » **“Comply with Documented Guidance”**
 - » **“If Necessary, Alter Those Documents”**
 - **Active OMTWG Participation**
- **Current HLA Strategy (Spiral)**
 - » **Implement.**
 - » **Evaluate What Worked**
 - **Did It Make the Job of Federation Easier?**
 - » **Evaluate What Didn't Work**
 - **Did it yield no benefit? If so, complain.**
 - **Did it “hurt” the effort? If so, develop a cogent, written input and disseminate with wide distribution then press on.**

Engineering Protofederation FOM Development Process

- Process We Executed
 - » Get Federation Composition
 - » Develop Objective
 - » Develop FOM
- The Process (As it should be)
 - » Get Objective
 - » Decide Federation Composition
 - » Develop FOM

Engineering Protofederation FOM Development Process

- **Get Protofederation Composition**
 - » ACETEF, AFEWES, IADS, J-MASS, REDCAP, SBD
 - Widely Varying Natures & Missions
- **Develop Objective**
 - » Find a Common Denominator Scenario
 - » Modify Scenario To Meet AMG Voter Requirements
 - » Identify Feasible “Data Points”
 - » Fix Data Point Gathering As Federation Objectives

Engineering Protofederation FOM Development

- **Develop FOM**

- » **1st FOM-O-RAMA**

- **Identify Inter-Simulation Interactions Which:**

- **We have the resources to deliver
AND**

- **Allow Us to Execute the Scenario in a Credible Way
AND**

- **Allow Us to Collect Enough Validatable Data to
Adequately Address Prioritized AMG Voter Issues**

- **FOM-O-RAMA #1 Duration: 2-Days**

Engineering Protofederation FOM Development

- **Develop FOM (Continued)**
 - » **2nd FOM-O-RAMA**
 - Walk Through The Scenario Interactions
 - Identify Precisely Which Simulation Objects Are Required and Who Will Own Each One
 - Identify AMG Voter Issue Exit Criteria
 - White Papers for Subjective/Non-Measurable or Discrete Pass/Fail
 - Conclusions based on Empirical Data for Objective, Measurable
 - » **FOM-O-RAMA #2 Duration: 3 Days**

Engineering Protofederation FOM Development

- **Develop FOM (Continued Again)**
 - » **3rd FOM-O-RAMA**
 - **Specify FOM Rules**
 - **Specify Attribute Structures**
 - **Specify Interaction Structures**

Engineering Protofederation FOM Product

● Interface Control Drawing

- » **Purpose:** To form a bridge between that which is required by the OMT and that which Software Designers, Integrators, and Implementors need to exploit the RTI.
- » **Contents:**
 - Document References
 - Physical Layer Description
 - Protofederation Rules
 - Attribute and Parameter Structures

Engineering Protofederation Lessons Learned

- If Code and Supporting Documentation are Developed Simultaneously in Separate Contexts; Reconciliation Between These **Two Pieces of Software** Needs to be Treated as a *Critical*, Iterative Part of the Development Process.